

Exploring the interaction between Christianity and science

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Abstract

The three lectures were entitled: *Is Christianity a Religion?*, *The Invention of Modern Science* and *Exploring the Territories of Science and Religion*. This lecture series explored new ways of thinking of both Christianity and science that emerge from the manner in which both entities have changed and developed over the last two millennia. It was proposed that an accurate perception of their contemporary interaction is predicated on an understanding of the nuances of this evolutionary, historical process.

Introduction

In 1570 the first printed atlas showed the Ottoman Empire containing both what is now modern Israel and Egypt. Of course, these countries did not then exist in anything like their modern form so it is meaningless to discuss 16th Century Israel or 16th Century Egypt. Clearly, however, an important ingredient of any understanding of these countries today, and of interactions between them, must be an appreciation of how these modern states emerged and how any boundaries or territories between them were established. In a similar manner these lectures argued that neither our modern concept of a religion, including Christianity, nor that of science would have been easily recognisable in earlier times. Similarly to matters geographical, in order to best understand the interaction between the two contemporary thought structures known today as “the Christian religion” and “science” we need to follow the processes involved in the development

and demarcation of these entities.

From Christian religion to “the” Christian religion

Religions today are primarily defined by sets of beliefs and practices and it is easy to suppose that this must always have been the case. However, evidence suggests that for the ancients, particularly the Greeks, *religio* was primarily a means towards personal virtue, intellectual culture, attainment and refinement, rather than relating to particular intellectual ideas of content. In this sense *religio* functioned in a similar manner to the muses of ancient Greece. Harrison suggests further that, while some theologising has been present since apostolic times, this feature of religion was also characteristic of Christianity during its early and middle eras.

This is suggested even in the Gospels. In John 4, in the context of contention over the preferred place of worship, Christ states that from then on, authentic worship would not be defined by place (a proposition) but by being “in spirit and in truth”. Allusions by Church Fathers are also indicative.

Jerome (347-420 AD) makes reference to James 1:26-27, in which Christian worship is defined in terms of charitable acts rather than through ideas.

Augustine (354-430 AD) notes that the defining feature of true religion is that it is directed towards God, reflecting rightly inspired inner piety. This is also demonstrated by the Epistle to Diognetus where, in a discussion of the distinguishing points of Christians, one finds reference to this “new race” and “new way of life.” Much later, **Thomas Aquinas** (1225-1274 AD) notes that *religio* is the “chief of the moral virtues” and that the internal or interior acts, such as devotion and prayer, have pre-eminence. Christianity then represents principally a virtuous internal state.

Of course it might be argued that the existence of ancient creeds opposes this thesis. Did not the apostle Paul clearly warn in places against false doctrine? And do not the fully developed creeds, which appeared soon after, appear to support the idea of some objectification of religion, even at the

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cradle of Christianity? Harrison argued that, despite these superficial appearances, even creeds did not represent the typical propositional constraints of religion common in our age. He suggested that the creedal statements of early Christians carried a significance not unlike the pronouncement, “I do”, commonly heard at modern wedding ceremonies. This statement is intended as a binding, promissory action statement, rather than simply as an academic assent. Augustine noted that the observance of a creed ultimately helps its adherents understand better, and immerse themselves within, the central idea in which they believe. There was a sense in which, for Augustine, belief preceded understanding. In this perception he simply reflected a societal norm by which it was accepted that the first way to worship the gods was to believe in them. In this context it is also important to remember that in earlier ages ‘belief’ meant ‘trust’ rather than simply assent to the idea that something existed.

There was a certain unashamed circularity to this view: faith seeking understanding and understanding searching for faith. In this sense a creed was an aid to personal transformation. Augustine observed that, “in believing they may be made subject to God; that being made subject, they may rightly live; that in rightly living, they may make the heart pure; that with the heart made pure, they may understand that which they believe...”ⁱⁱⁱ It should also be noted that these confessional statements were frequently also ‘treaties.’ Creeds like the Nicene were really negotiated settlements and compromises between warring parties in Christendom whose primary differences related more to power struggles and background than doctrinal difference in a modern sense.

Harrison suggested that it was the period of the Renaissance and Reformation during the 16th and 17th centuries that represented a key turning point, providing the initial impetus for the propositional differentiation between religions. It was the emergence of Protestantism which first necessitated fine theological division and gave rise to such landmark gatherings as the prolonged Catholic Council of Trent. The subsequent proliferation of Protestant Churches and sects further fueled this trend. Also during the same period the great voyages of discovery revealed other world religions, between which one also needed to differentiate. Names such as Jew, Heathen, Mahomet, Buddhist and Hindu represent Western attempts to define and describe other religions. These terms were not used by, or even known to, their actual practitioners. Accordingly, all religions, including Christian faiths, became primarily constituted and defined by beliefs, i.e. by propositional content, rather than by

inner pieties. Thus modern religion as we know it came into existence. Harrison argues that this new conception of religion would have appeared strange to those of the apostolic era.

This objectivisation of faith also came about because Protestant reformers insisted that the laity understand the content of theological beliefs, in contrast to what was seen as a besetting sin of Catholicism—blind faith by the laity in the clergy. For example, Calvin wrote that “true religion which is delivered in the Scriptures, and which all ought to hold, they (the Catholic priesthood) readily permit both themselves and others to be ignorant of, to neglect and despise; and they deem it of little moment what each man believes concerning God and Christ, or disbelieves, provided he submits to the judgment of the Church with what they call implicit faith...”^{iv} There were also political overtones. It was impossible to split Europe on the basis of inner pieties but it was certainly possible to do so on the basis of external, identifiable tenets. Such a view of religion was part of, and suited, the political division of Europe at that time. The truth of the propositions became all important.

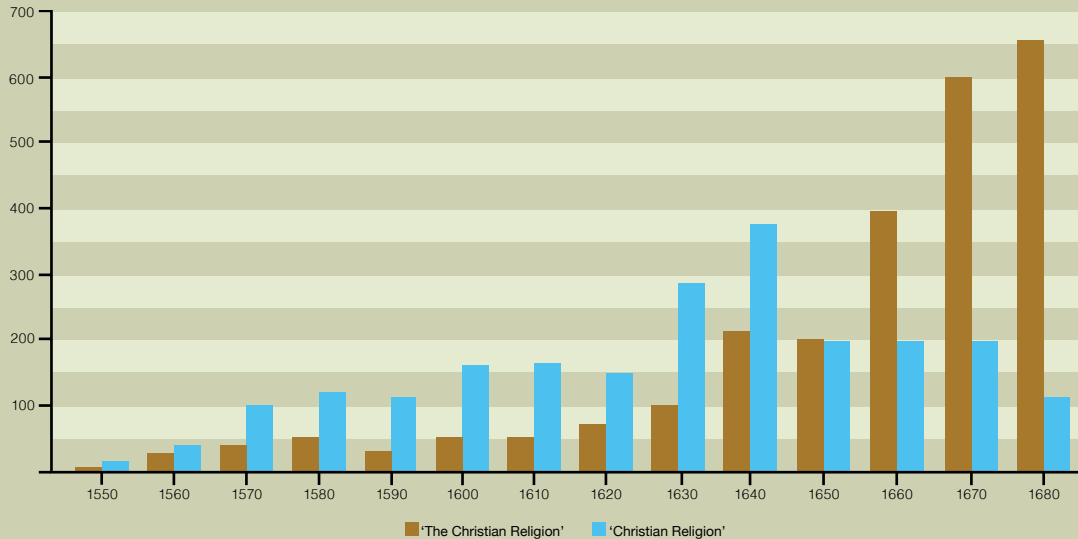
Initially terms such as ‘Christian religion’ and ‘Christian worship’ were used without the definite article. Not surprisingly, however, this terminology changed to reflect the new situation. It appears that ‘the’ Christian religion was first described as such by Calvin, in his Institutes of the Christian Religion. This trend towards the use of the definite article is indicated by the graph shown in Figure 1, indicating usage of the definite article from 1550 to 1680 AD.

It may be seen that the usage of the term ‘Christian religion’ peaked in 1640 and then declined down to 1680. Over the same period the term ‘the Christian religion’ was employed more and more frequently. This change in emphasis was reflected in other aspects of Christian literature. For example, in his work on Christian apologetics Richard Baxter discussed both internal and external evidences. For him faith was now a rational and discursive act of the mind, an assent based upon evidence. David Hume’s *The Natural History of Religion* also presents an account of religion, principally in terms of propositions.^{vii}

There was, of course, some resistance to this trend, particularly from pietists. Methodists, and later American groups such as the Christian Connection movement and the early Seventh-day Adventist Church would express great opposition to creedal statements. Clearly not all those to whom the new paradigm substantially applied bought into it, at least not in their early years!

It is also important to note that in the case of religion conceived as an inner state there cannot be

Figure 1: Relative frequency of the expressions “Christian religion” and “the Christian religion” in English books, by decade, 1550 – 1680.^{vi}



the same relationships with other entities or states of controversy with them as are possible in the case of something objectifiable and consisting primarily of propositions.

The emergence of modern science: Science as a “virtue”

Elsewhere Harrison has stated that, “One of the biggest gaps in the history of science is the paucity of studies of the history of the meanings of “science” and other labels used by investigators of nature to describe their own activities”.^{viii} This situation is further complicated by the terminology employed. In contrast to *religio*, which was essentially a single idea, *scientia*, the general descriptor for knowledge, particularly of the natural realm, was accompanied by another differentiated label, *naturalis philosophiae*. Aristotle differentiated 3 forms or levels of knowledge (*scientia*):

- Theology - the queen of the sciences, dealing with that which was definitely eternal, immovable and totally separate from matter,
- Mathematics - the subject matter of which may also be considered at least in some sense to be eternal, immovable and separable from matter, and
- Physics - *naturalis philosophiae* (natural philosophy), which dealt with the finite, moveable realm which was inseparable from matter.

These distinctions and their associated terminology would dominate scientific investigation for almost 2,000 years, as demonstrated by Newton who, many centuries later entitled his seminal work concerning what today would be called physics: *Philosophiae Naturalis Principia Mathematica*.

Harrison suggests that, in a manner quite parallel to that noted above for religion, science also began as principally an inner quality to which one might aspire. This is really no surprise since it merely reflected the predominant mindset of that era. Support for this idea is readily forthcoming from the Greek philosophers and those in their heritage.

Plato (approx. 429-347 BC) taught that by studying and assimilating the harmonies and revolutions of the universe one might attain to the best life, i.e. the good and moral life (*Timaeus*). Seneca (1 BC – AD 65) taught that philosophy was not about popular epistemology or ontology but concerned living the moral life - even spiritual formation. Ptolemy (AD 90-168) said that this science (mathematical astronomy) lets men see clearly the constancy, order, symmetry and calm of the natural order and thus enables them to imbibe these qualities. Simplicius (AD 490-560) suggested that physics was a useful ladder leading to the superior part of the soul and was thus an “auxiliary for moral virtues”.^{ix}

In his Sermon 150 Augustine (AD 354-430) noted that philosophers strive to lay hold of the blessed life and that in a sense, this urge is common to both

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philosophers and Christians. Much later, Aquinas perceived *scientia* as a virtuous intellectual addiction which increases with the practice and application of certain rational processes and activities, particularly geometry. Reflecting this understanding an early modern dictionary stated that “science is a habit of mind”, which is quite different from scientific knowledge. The role of the propositions is to inculcate the internal *scientia* – i.e. a habit. A 17th century English dictionary defined *scientia* as “properly the act of him that knoweth, ...a habit of knowledge got by demonstration...”^x These understandings of *scientia* prevailed up to the early modern period.

The early modern period: Natural theology and natural philosophy

During this period a strong link was perceived between natural theology and natural philosophy, as evidenced by a huge increase in the use of the term ‘natural theology’ from 1560-1760, particularly from 1680. It is interesting to note that while science did arise in China and medieval Islam, it only took off in the West. It has been argued that this is because of its status as part of the religious dialectic. In this sense natural theology gave natural philosophy legs. Gaukroger has suggested that the coming together of natural philosophy and theology in the early modern period was foundational in establishing western scientific culture, a view supported by Henry. Links have also been established between Puritanism and science. Indeed, according to its first founders the Royal Society of London, which remains one of the world’s premier scientific institutions, was set up to follow the same methods for establishing truth as had been earlier laid down by the Church of England.^{xii}

There is no doubt that many of the well-known figures of this period were devout Christians whose view of religion was very similar to that described in the previous section and whose faith very definitely informed their view of what they did in their observatories and laboratories. Francis Bacon (1561-1626) took the view that the losses of both innocence and dominion stemming from man’s fall could be partially restored by religion and natural philosophy respectively! In this sense he saw science as redemptive.^{xiii} It is important to note that for most people at this time science was not self-evidently useful, as it is today. There were no noticeable technologies, medical spinoffs or lifestyle benefits arising from it. This Baconian view of science was to be enormously influential, as discussed below. Kepler (1571-1630) stated, “I wished to be a theologian; for a long time I was troubled, but now see how God is also praised

through my work in astronomy.”

In a similar vein Robert Boyle (1627-1691) noted that “discovering to others the perfections of God displayed in the creatures is a more acceptable act of religion, than the burning of sacrifices or perfumes upon his alters”. He appreciated that the rational contemplation of nature is “philosophical worship of God”. He also left a legacy for “proving the Christian religion against notorious infidels”.^{xiv} Newton (1642-1727) claimed that the business of true philosophy was “to enquire after those laws on which the Great Creator actually chose to found this most beautiful Frame of the World, not those by which he might have done the same, had he so pleased”. William Paley (1743-1805) noted in turn that there seemed to be a uniformity of plan observable in the universe. John Herschel (1792-1871) said that “the natural philosopher is led to the conception of a Power and Intelligence superior to his own which tranquilises and reassures the mind . . .”^{xv}

However, it appears that around this time the whole teleological idea of the Aristotelian virtues – those beneficial and moral attainments which might be acquired by assiduous application and discipline – began to lose favour in intellectual Europe. This Aristotelian idea of acquired virtue had been easily assimilated into Christian thought, as conspicuously represented on the front of some cathedrals, for example at Bath, England, by the motif of Jacob’s ladder. It was widely supposed that moral virtue in the Christian sense could also be acquired by consistent application and that salvation was substantially by this means. In fact, in one sense intellectual Christendom had commandeered this Greek notion to the point where it was argued that *only* Christianity really possessed such a ladder and that *only* Christian virtues were worth the attainment. In this sense the Christian way was seen by practitioners as the only real means to achieve this unfulfilled goal of pagan philosophy.

However, these Aristotelian ideas were to some extent repudiated by the Reformation theme of justification by faith (reckoned to one rather than possessed by one) in contrast to sanctification (something acquired). Harrison has advanced the idea that it was this Reformation theology, with its rejection of subtle sophistries and symbolisms and its emphasis on plain reading of the textual data, which was instrumental in establishing the value of empirical investigation within modern science. The plain reading of scripture carried over into the plain reading of nature.^{xvi}

More recently Harrison has argued, even more specifically, that another primary factor at this time was the strong influence of the Augustinian view of the depravity of man. He builds a strong case,

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urging that from the early modern period, the views of Bacon earlier noted, i.e. that science was a way of restoring what was lost in the primeval fall and “ameliorating the cognitive damage wrought by human sin” enormously empowered the developing scientific enterprise.^{xvii} Such considerations imparted to science almost a divine imprimatur.

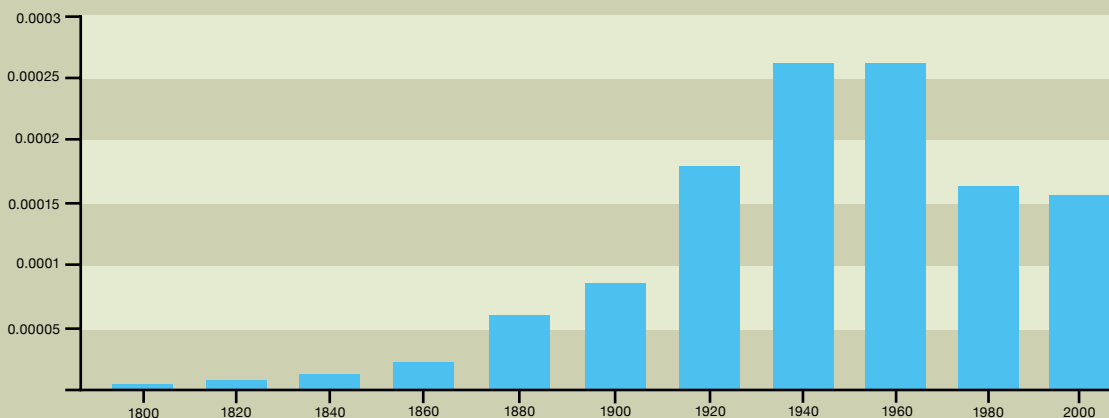
From natural philosophy to modern science

In the context outlined above it might seem surprising that science has come to substantially exclude God as a causal factor in the natural realm. Certainly it was characteristic of Greek natural philosophy to exclude the actions of the gods and this idea appears to have been somewhat

carried over into Medieval Christianity. The term “*de naturalibus naturaliter*”, was first employed by Albert the Great, teacher of Thomas Aquinas, to “convey the idea that it is legitimate to study nature as if God does not intervene”.^{xviii} This term comes down to us today as “methodological naturalism” - the idea that, even under the philosophical umbrella of theism, God plays no part in the secondary causations of nature. However, particularly over the last few hundred years, as it has become even more experimental, science has gone on to more actively exclude the religious, moral and philosophical dimensions from its ‘day to day’ practice.

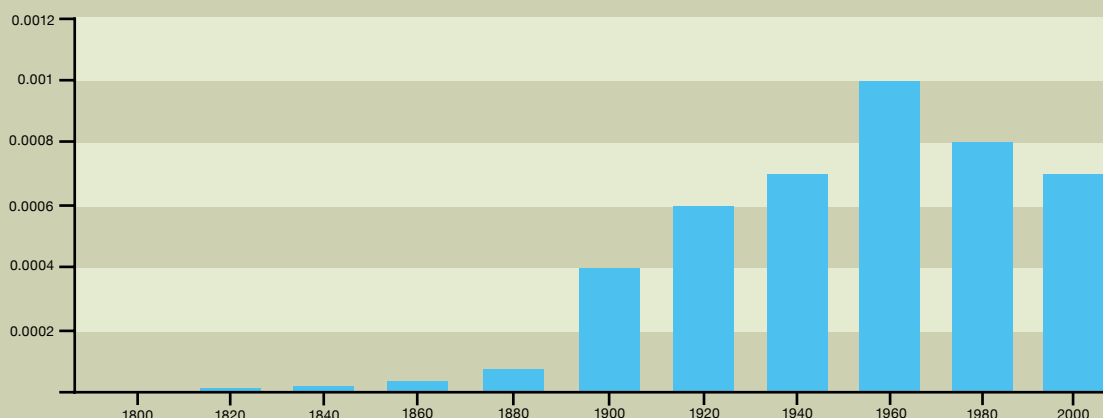
The term ‘scientific method’, which tacitly assumed at least the framework of methodological

Figure 2: Frequency of the expression ‘scientific method’ in English books from 1800 – 2000



“science was a way of restoring what was lost in the primeval fall and “ameliorating the cognitive damage wrought by human sin”

Figure 3: Frequency of the expression ‘scientist’ in English books from 1800 – 2000.^{xix}



naturalism, first appears about 1800 AD and soon dominates, as shown in Figure 2. The term ‘scientist’, with similar connotations, first appears in English books in 1837, its usage taking off particularly about 1860 after initial hesitation, as shown in Figure 3.

By the late 19th century the terms ‘science’ or ‘natural science’, with their more secular connotations, had largely taken over from ‘natural philosophy’. Reflecting this transition, by 1900 the term ‘biology’ had become more common than the term ‘natural history’ and the movement from theological-metaphysical-scientific to just science was substantially complete.

By the middle of the 19th century it was increasingly perceived that the scientific method represented the only means available to determine any truth that mattered. Science was seen as progressive and representative of the most advanced stage of civilization. Religion appeared to have been left behind.

It is not difficult to understand how these developments contributed to an essential change of character for *scientia*, now science. One factor was the externalization of science with the disappearance of its significance for personal piety. Another factor was its very success, resulting in its proliferation and diversification into sub-categories such as astronomy, physics, chemistry and more lately, geology, which gave rise to a complex taxonomy. Hierarchies emerged. Inevitably there was a certain amount of rivalry between different kinds of scientists and the guarding of intellectual turf. This was exacerbated in the 19th Century when the social, political and military power of science became apparent. Differentiations such as “experimental” and “theoretical” also became widely recognised.

Thus the combined thesis of the first two lectures in this series is that, beginning in the early modern periods, both the virtues of *religio* and *scientia* became objectified and externalised into beliefs, doctrines and sets of orthodox practices. Clearly, this mutual transition of *religio* and *scientia* opens the possibility for another kind of relationship between them.

Exploring the interaction between Christianity and science

Early interactions

Although a number of the world’s religions have interacted with science this section focusses on the modern interaction between Christianity and science. For the Greeks, *religio* and *scientia* were not in conflict, since their naturalistic explanations did not displace or threaten their mythological ones.

It is clear that *scientia* and *philosophiae* could have been seen as competitors with Christianity (*religio*) in that they were, in a sense, rival spiritual practices. However, this seems not to have occurred to any substantial extent in the early Christian era.

A number of authors, including Draper, White and Gilson^{xx} have sought to establish an adversarial attitude on the part of the patristic fathers to the science of their day by citing Tertullian but, as pointed out by Lindberg, the latter was not typical. Other leading figures of the period, including Augustine, whose influence was to be pervasive, took a much more sympathetic view, regarding the natural sciences as ‘handmaidens of religion and the church’. Later, beginning during the 13th Century, the Christian Church largely assumed sponsorship of the universities as they were established, hence responsibility for scientific learning. During this period there was a significant revival of interest in the classic traditions, including the Greek sciences, as translations became available. With the exception of an incident at the University of Paris involving an attempt to suppress some Aristotelian ideas that were perceived to be dangerously liberal, few stresses arose between learning and the Church. It must also be pointed out that most of the 219 “heresies” under discussion at that time were not scientific in nature. For the most part peaceful co-existence between science and faith predominated.^{xii}

Inventing the “Conflict” Myth

One of the most significant consequences of failing to appreciate the complexity of the development of modern religion and science was the nineteenth century invention by Protestants of what may be called the “conflict” myth. In 1874 J. W. Draper, an American chemist & physician published his *History of the Conflict between Religion and Science*. This was followed in 1896 by A. D White’s even more influential *A History of the Warfare of Science with Theology in Christendom*.^{xxii} These books stressed the intrinsic incompatibility of science with Christianity, reflecting the earlier statement of T. H. Huxley to the effect that “extinguished theologians lie about the cradle of every science as the strangled snakes about that of Hercules”^{xxiii}. Such authors sought to use this seemingly obvious and very much at hand argument to further their agendas of promoting the authority of science, hence its social impact, and lessening the risk of any governance or control by religion. The science-religion controversy has also frequently been used as a proxy for the far deeper atheism-theism debate. To similar ends Karl Popper once asserted that science was started by Thales, oppressed by Christianity and most lately revived during the Renaissance. More recently

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Davies has called science the second great attempt to explain the world, religion being the first.^{xxiv}

These authors substantially fail to recognise that “the boundaries between science and religion were drawn rather differently in the past and this complicates the way in which we interpret particular historical episodes”. In this connection Harrison notes that Newton, for example, regarded arguments over the existence of God as properly pertaining to the domain of science, a view which few modern scientists would affirm, Christians among them!^{xxv}

There are a number of additional factors which also make such generalisations difficult. Firstly, it is important to note that neither ‘science’ nor ‘religion’, including ‘Christianity’, are unified structures. Each shows a range of expressions with varying degrees of sympathy or symbiosis to the other. This has been the case throughout their history and remains so. Further, some entities, on both sides, have also been quicker to learn from their mistakes than others. Secondly, the range of scientific positions on the realism–instrumentalism spectrum also complicates this picture. Realists believe that their progressively refined theories genuinely reflect reality more accurately. On the other hand, instrumentalists take the view that their sequences of scientific models are best understood not so much as being true but as increasingly convenient fictions, primarily useful for making predictions about the manner the universe will behave. Clearly there is a greater risk of conflict

between Christianity and scientific realists than between Christian belief and instrumentalists since the former accept the objective truth or falsehood of their propositions.^{xxvi} The conflict myth fails to address such issues in any way, simply presenting caricatures of the two protagonists.

It is certainly true that over the last few hundred years, particularly since the controversies over geology and the origin of species, the mutual discussion of science and religion has become commonplace, and at times heated. This is evidenced by the increasing usage of the phrase ‘science and religion’, as shown in Figure 4.

Modern Expressions of Conflict

Although the taxonomy of the interaction between science and Christianity remains complex there are two main expressions of conflict between science and religion evident today. The first is where science accuses religion as being impotent, even fraudulent, and itself lays claim to the realms of ultimate meaning, values and morality. The second is where religion accuses science of invading its space and refuses to concede the authority to science which it deserves. This view fails to recognize the strengths of scientific methodology and its successes in accessing and revealing many of nature’s secrets. Both views frequently demonstrate a failure to recognise that significant numbers of modern scientists espouse a Christian faith, as shown in

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Figure 4: Usage of the phrase ‘science and religion’ in English books 1800 – 2000

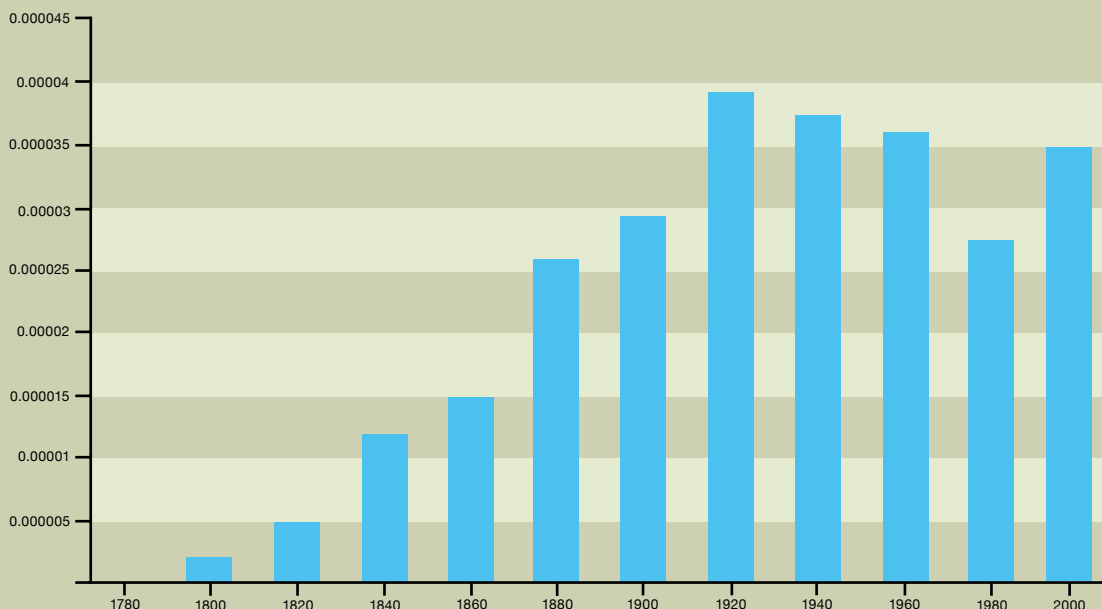


Figure 5: Faith affiliation by scientific discipline.¹

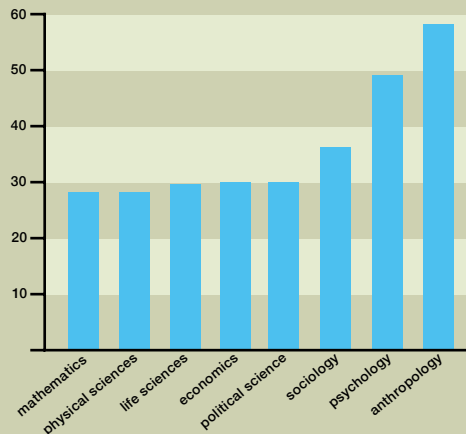


Figure 5.

Scientific Critics of Religion

This viewpoint tends to cast religious truth in scientific terms. Its most visible form is the militant “New Atheism” movement, spearheaded by Richard Dawkins, Daniel Dennett, Sam Harris, Christopher Hitchens, Polly Toynbee, Jerry Coyne, Martin Amis and Stephen Hawking. E. O. Wilson was an earlier, although less blatant exponent of this view. Science is promoted not only as the one way of determining truth about nature but as the only guide to, and arbiter of, truth and morality. Religion is denigrated and despised as an outdated vestigial remainder of earlier, more superstitious times. Science is used in this way, as for Huxley, as a proxy for atheism. This viewpoint insists on philosophical naturalism and does not recognise any validity for methodological naturalism alone. Typical of this genre, Coyne writes: “science and faith are fundamentally incompatible, and for precisely the same reason that irrationality and rationality are incompatible. They are different forms of enquiry, with only one, science, equipped to find real truth. ... And any progress—not just scientific progress—is easier when we’re not yoked to religious dogma.”^{xxviii}

Religious Critics of Science

This position, which tends to cast scientific truth in religious terms, is associated with some proponents of recent creation and Intelligent Design. It, too, is also typically uncomfortable with the idea of methodological naturalism, again seeing it as being too ‘weak’ although obviously in a different sense to the scientific critics of religion! Exponents generally take the view that God’s activity can

legitimately be the subject of scientific investigation and that His footprints are unambiguously visible in obvious ways. While accepting much of modern science those holding such views typically dismiss scientific evidence which does not support their worldview, often on the basis of the fact that scientific understandings have frequently changed with new discoveries, sometimes quite substantially. A continuum exists between the more extreme expressions of this stance and main-stream Christianity, with individual Christians adopting viewpoints more or less in this category depending on the issue.

Conclusion

Clearly, Christians should unambiguously oppose the new Atheism. However, while the “conflict” myth has been substantially debunked, as earlier noted, there is no doubt that over the centuries Christian perceptions of what the Bible teaches have been forced to change on a number of issues, including some scientific challenges. A number of such incidents are documented by A. D. White, and others. Perhaps the most significant of these has been the revolutionary Copernican idea that the Earth moves around the Sun. After all, the Bible contains a number of texts, such as Joshua 10:13, II Kings 20:10, Ps 19:4-6, and Eccl 1:5 which appear to teach that the Sun moves. There are also texts such as Ps 93:1 and Ps 104:5 which were clearly understood as implying that the Earth was immovably fixed. It took 200 years before Christians could substantially agree with Galileo’s statement (actually borrowed from Caesar Baronius, the Vatican Librarian) to the effect that the Bible was given to teach us how to go to heaven, not to teach us how the heavens go.

Science continues to confront modern Christians with a number of difficult dilemmas, among them complex medical issues, baffling environmental challenges, and confusing data concerning origins. We must be careful. As Christians we must ensure that our positions on matters related to science and its interface with faith are defensible, well thought out and carefully expressed. Christians have sometimes been accused of believing “six impossible things before breakfast” and this is unfortunate.^{xxx} Former British Chief Rabbi, Jonathan Sacks, argues that this need not be so, that faith and science operate in complimentary spheres like the left and right hemispheres of the brain, and that there should be no essential conflict between them. He suggests that “Science takes things apart to see how they work. Religion puts things together to see what they mean”.^{xxxi} **TEACH**

“Science is promoted not only as the one way of determining truth about nature but as the only guide to, and arbiter of, truth and morality.”

Endnotes

ⁱ See Dixon, T. (2008). *Science and Religion: A Very Short Introduction*. Oxford, UK: Oxford University Press; and Harrison, P. (2015). *The Territories of Science and Religion*. Chicago and London: University of Chicago Press.

ⁱⁱ Harrison, P. (2014). New College Lectures: Lecture 1, "Is Christianity a Religion?". www.newcollege.unsw.edu.au/sydney/2014-exploring-the-territories-of-science-and-religion. Accessed 16-5-2015.

ⁱⁱⁱ Augustine. *A Treatise on the Faith and the Creed* 10.25. Cited by Harrison P. (2014). New College Lectures: Lecture 1, Op cit.

^{iv} Calvin, J. (1536). *Institutes*, Prefatory Address. Cited by Harrison P. (2014). New College Lectures: Lecture 1, Op cit.

^v Calvin, J. (1536). *The Institution of the Christian Religion: in Four Books*. Basel: Thomam Platteru & Balthasarem Lasium. Cited by Harrison P. (2014). New College Lectures: Lecture 1, Op cit.

^{vi} Cited by Harrison P. (2014). New College Lectures: Lecture 1, Op cit.

^{vii} Baxter, R. (1667). *The Reasons of the Christian Religion*. The First Part, of Godliness: the Second Part, of Christianity. London: Fran. Titon; Hume, D. (1757). *The Natural History of Religion*. London: Adam and Charles Black. Cited by Harrison P. (2014). New College Lectures: Lecture 1, Op cit.

^{viii} Harrison P. (2011). "Introduction" in Harrison, P., Numbers, R. L. & Shank, M. H. (eds.). (2011). *Wrestling with Nature: From Omens to Science*. Chicago, University of Chicago Press, 1.

^{ix} Plato. *Timaeus*. 91c-d; Seneca. *To Lucilius*, 16.3; Ptolemy, C. *Almagest*. 1.1; Simplicius. Cited by Harrison P. (2014). New College Lectures: Lecture 2, "The Invention of Modern Science". www.newcollege.unsw.edu.au/sydney/2014-exploring-the-territories-of-science-and-religion. Accessed 16-5-2015.

^x Augustine, *Sermon 150*; Aquinas, *Summa Theologiae*, 1a2ae. 52, 2; Holyoake, T. (1676). *A Large Dictionary in Three Parts, Scientia*. London. Cited by Harrison P. (2014). New College Lectures: Lecture 2, Op cit.

^{xi} See Gaukroger, S. (2006). *The Emergence of a Scientific Culture*. Oxford: Clarendon Press, 506, 3; Henry, J. (2010). "Religion and the Scientific Revolution", in Harrison, P. (ed.). (2010). *The Cambridge Companion to Science and Religion*, Cambridge, UK: Cambridge University Press, 42-45.

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“*Science takes things apart to see how they work. Religion puts things together to see what they mean*”